



the WATER TAP

WASHINGTON'S DRINKING WATER NEWSLETTER

Washington's Water Supply Advisory Committee

The Water Supply Advisory Committee (WSAC) plays an instrumental role in assuring people in Washington have access to safe and reliable drinking water. Created in 1995 by the State Legislature, the committee provides advice and makes recommendations to the Department of Health on its drinking water program.

In addition to advising the department on the scope and funding of its drinking water program, the committee meets quarterly with these goals in mind:

- Promoting the idea that having a comprehensive drinking water program is a basic need in protecting the health of Washington communities.
- Educating state and federal agencies, local health jurisdictions, public water systems, and their customers about the shared responsibility for promoting and protecting the health of their communities through an effective drinking water program.

Committee members reflect a broad range of drinking water interests including utility owners and operators,

environmental advocates, local health organizations, and others substantially affected by the department's role in carrying out state and federal requirements for public water systems.

Groups currently represented include:

- Public and private, large and small water utilities
- Local governments
- Local health jurisdictions
- Business
- State and federal agencies
- The Legislature
- Financial institutions
- Environmental organizations
- Public interest groups

In its most recent report to the Department of Health, the committee made more than 100 recommendations on defining and overseeing Group B water systems, addressing the needs of small Group A water systems, implementing the federal Safe Drinking Water Act, ensuring water system compliance



with drinking water regulations, and funding state and local drinking water regulatory programs.

These recommendations resulted in shifts in the structure and activities of the Department's Division of Drinking Water. For example:

- The division published its strategic directions, outlining the highest,



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Arsenic & Surface Water Rules
EPA satellite broadcast training, Jan 29, 30. Information on how to participate: www.epa.gov/safewater/dwa/satellite.html

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THE DIRECTOR'S COLUMN

BY GREGG GRUNENFELDER



Seminars focus on preventing and responding to water contamination

In October and November 2002, the Division of Drinking Water once again teamed up with the

Washington Environmental Training Resource Center (WETRC) to present our annual series of Drinking Water Seminars. They were held in five locations around the state and were very well attended, reaching approximately 600 water utility managers and operators, local health staff, and laboratory personnel.

The high level of professional interest and participation in the seminars shows once again the extraordinary commitment we have in Washington State to ensuring the safety of our drinking water supplies.

Learning from the misfortunes of others

This year's seminars examined two recent waterborne disease outbreaks in Canada—one of which resulted in seven deaths and both of which involved thousands of cases of illness. We discussed the events leading up to these outbreaks and the lessons we can all learn from them to prevent similar tragedies in our state.

The two organisms involved in the Canadian outbreaks—*E. coli* and *Cryptosporidium*—are found virtually everywhere in the environment. Since they are so common, prevention of outbreaks depends almost entirely on the competence of water utilities in all aspects of safe water operations.

These include:

- Source water protection.
- Adequate treatment facilities and operations.
- Trained and knowledgeable system operators.

- Well-educated and thoughtful managers and elected officials.

This is a huge job, and the public counts on all of us to do it very, very well.

When prevention isn't enough: Issuing health advisories

Because the organisms that cause waterborne disease outbreaks are so common, they occasionally find their way into water systems despite our best efforts. For this reason, the seminar presentations also focused on issuing health advisories when contamination incidents occur. Rapid response and thorough public notification are key.

To help water systems and local health jurisdictions prepare for this type of response, we distributed our newly-developed public health advisory packets, which contain several fact sheets, model communication templates, and other emergency response items.

I strongly encourage each water utility in the state to carefully consider how you would inform your community if the safety of your water comes into question. The health advisory packet can help you prepare for timely action.

If you did not attend one of our seminars and would like a copy of the packet, please contact our drinking water regional office staff for a copy. We want to support you in any way we can to be prepared and to respond appropriately to incidents of unsafe drinking water, no matter what the cause.

The year 2003 will surely bring new and pressing challenges for us all. As we face these challenges, let's keep clear our primary mission—ensuring that people in our state have safe and reliable drinking water. My sincere thanks for your efforts to date, and all the best in the coming year.

Security Vulnerability Assessments:

- Requirements
- Funding
- Training

On June 12, 2002, President Bush signed the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 into law. The act requires every community water system serving more than 3,300 persons to:

- Conduct a vulnerability assessment.
- Certify and submit a copy of the assessment to the U.S. Environmental Protection Agency (EPA) within a specified time.
- Prepare or revise an emergency response plan incorporating the results of the vulnerability assessment.
- Certify to EPA that the system has completed such a plan within six months of completing the vulnerability assessment.

To help water systems meet these requirements, the Division of Drinking Water will provide

training to water systems serving between 3,301 and 99,999 people.

Training is scheduled to begin in the spring of 2003. The division will publish training dates and locations on its web site and send training notifications directly to affected water system operators and Satellite Management Agencies. Funding for these training sessions is provided by EPA.

EPA offered up to \$115,000 to water systems serving more than 100,000 people for completion of the new assessment and planning requirements. Eight systems in Washington received this financial assistance.

Water systems serving fewer than 3,300 people are not required by the law to conduct vulnerability assessments. However, it is important that these systems also understand potential threats and the steps they can take to prevent incidents and respond to them. In the interest of protecting all citizens, the division has allocated separate funds to provide training to these

smaller systems. Sessions are being offered through May 2003 around the state.

The training calendar is posted on the Division of Drinking Water web site at <http://www.doh.wa.gov/ehp/dw/>. For more information, please call 360-236-3164.

Time frames for submitting vulnerability assessments and emergency response plans

Population served by water system:	Certify and submit vulnerability assessment by:	Certify emergency response plan within 6 months of vulnerability assessment, but no later than:
100,000 or greater	March 31, 2003	Sept. 30, 2003
50,000 to 99,999	Dec. 31, 2003	June 30, 2004
3,301 to 49,999	June 30, 2004	Dec. 31, 2004
Under 3,300	Not required	Not required

Security Coordinator Hired

In October the Division of Drinking Water hired Scott Decker to work in the Constituent Relations Section as the division's new Security Coordinator. The position is funded by a grant from the U.S. Environmental Protection Agency.

Scott brings a wealth of experience in managing projects and cultivating partnerships in the public, private, and nonprofit arenas that will help establish a statewide presence to foster drinking water system security throughout the state.

Since Scott's arrival, progress has been made to solidify an action plan aimed at empowering water utilities and the division to prevent and respond to emergency incidents. Scott will work closely with key staff in the Department of Health and our partners outside the department to carry out the plan.

If you have questions or concerns about water system security, contact Scott by calling 360-236-3162 or email him at scott.decker@doh.wa.gov.

WATER SYSTEM SECURITY:

Contacts & Information Sources

Division of Drinking Water

During business hours 1-800-521-0323

Security Coordinator 360-236-3162

After hours hotline 1-877-481-4901

Regional Offices

Northwest Regional Office: 253-395-6750

Southwest Regional Office: 360-664-0768

Eastern Regional Office: 509-456-3115

Local Law Enforcement: 911

FBI Emergencies:

206-622-0460

Web Sites

Washington State Department of Health,

Division of Drinking Water:

www.doh.wa.gov/ehp/dw/

Washington State Department of Health

Bioterrorism preparedness and response:

www.doh.wa.gov/BioTerror/default.htm

Association of State Drinking Water Administrators:

www.asdwa.org

American Water Works Association:

<http://www.awwa.org>

U.S. Environmental Protection Agency

[http://www.epa.gov/epahome/](http://www.epa.gov/epahome/hi-watersecurity.htm)

[hi-watersecurity.htm](http://www.epa.gov/epahome/hi-watersecurity.htm)

National Rural Water Association:

www.nrwa.org/

Evergreen Rural Water of Washington

www.erwow.org/

National Drinking Water Clearinghouse:

<http://www.nesc.wvu.edu/ndwc/>

[ndwc_protect.htm](http://www.nesc.wvu.edu/ndwc/ndwc_protect.htm)

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medium, and lower priority drinking water program activities, and reallocated resources to reflect the priorities.

- A new Training and Outreach Section was created to enhance training, education, and technical assistance opportunities for all size water systems – targeting the special needs of each type.
- Funding was obtained for local health agencies to identify and assess the status of Group B water systems in their counties.
- A new compliance strategy was developed that prioritizes compliance efforts based on the overall health risk of a violation.
- The first phase of a data system (SENTRY) geared at expanding our capacity to receive and retrieve data has been completed, and the second phase is underway.

Currently, the committee is engaged in discussions about the links between water resources and public health protection, and the issues about drinking water security. In addition, a subcommittee is evaluating what's been done and what's needed regarding water system affordability and sustainability.

In 2003, the committee will meet in January, April, July, and October.

More information about the committee is available on the web, or contact Denise Clifford, the division's Constituent Relations Manager at 360-236-3098 or denise.clifford@doh.wa.gov

WSAC Quick Facts:

Created by the Legislature in 1995

RCW 70.119A.160

30 members

Meets quarterly

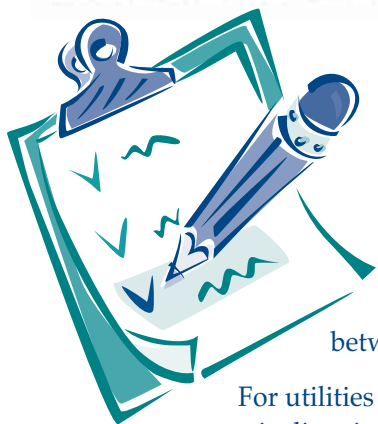
Current issues:

- Links between water resources and public health
- Water system affordability and sustainability
- Drinking water security

Web site, with membership roster, meeting minutes, and other information:

<http://www.doh.wa.gov/ehp/dw/WSAC.htm>

A New Focus for Water System Planning



The Department of Health has a new approach to water system planning that is integrated with the Division of Drinking Water's strategic directions (at right). It is a new way of dealing with your water system as an individual entity and targeting planning to your specific system needs. It is intended to strengthen the partnership between DOH and water systems.

For utilities identified as high priority for planning, the strategic directions encourage review and follow-up of critical issues in water system plans. They also encourage streamlined review of other utilities' water system plans, focusing on issues most strongly linked with public health.

Our new approach won't cost your water system additional money. It won't create longer processes, and it won't make it more difficult for your system to gain compliance with drinking water rules.

Here are the immediate effects you should notice from the new approach:

- ☑ If your system was identified as a high priority for developing a water system plan and your plan is overdue or due to be updated this year or next year, you will have been notified of the need to contact us to set up a preplan conference.
- ☑ The preplan conference is essential to the success of this new method of doing business. We will work with you in the conference to identify the specific areas that need to be updated, define critical issues that are specific to your system, and bring you up to date on the new look to our review/comment letters.
- ☑ Review/comment letters from us will be more specific, with clear identification of the elements you must address to gain water system plan approval. There will also likely be some DOH recommendations, but you determine whether or not to incorporate them into your plan, and plan approval will not be contingent upon addressing the recommendations.
- ☑ Some smaller systems will have an option to shift from a water system plan (with a six year update expectation) to a small water system management program.

These are the most immediate changes. You can also look forward to more long-term changes that will require rule, policy, and statute modifications.

Your most direct link to this new approach is participation in the preplan conference. We believe the changes will make it easier for you to comply with planning regulations, provide a more thoughtful approach, and help strengthen our partnership with you.

If you have any questions contact your DOH regional planner.

Division of Drinking Water Strategic Direction Goals*

1. Respond to and handle public health "emergencies" / threats, relative to unsafe drinking water from any size public water supply.
2. Make important information accurate and easily accessible about drinking water topics, data, and the drinking water related work DOH conducts.
3. Have a basic understanding of how water is being provided by all Group A public water systems in this state.
4. Know the basic quality of water being delivered by systems, particularly in regards to microbial and acute chemical parameters.
5. Make it clear to purveyors what their responsibilities are, and position water systems as best we can to successfully meet their responsibilities.
6. Take appropriate compliance actions against priority violations, and clear cases of fraudulent operation/reporting.
7. Assist water systems in future system planning and development.
8. Participate in long-range strategies relative to future delivery of water in the state.

**For detailed activities under each goal, see our web site at <http://www.doh.wa.gov/ehp/dw/> and click on "Publications" then "Fact Sheets and Q&As."*



Especially for Small Systems

Small Communities Initiative in Action

Ione looks for safe, clear, usable water

Editor's Note: This is the last article in our four-part series on the Small Communities Initiative, a multi-agency approach to helping small towns in Washington meet state requirements for safe drinking water.

Harley Young once told Leanna Powers he'd run naked down the main street of Ione if the town's water system ever got fixed.

Powers moved to the small northeastern Washington town about five years ago, opened a hairdressing shop, and quickly began noticing problems with the water.

"Women were coming back all the time to have their perms re-done," she said. "Often when I wiped the wet curlers with cotton, it turned purple."

Convinced she was losing income because of the town's bad water, Powers complained to the city council. The next thing she knew she was a member of the council and Ione's sole water commissioner. And now she's determined to see that Harley

Young gets the opportunity to make good on his promise.

Upgrading a small town water system can be a huge challenge. It takes time, money, and ongoing coordination among multiple individuals and organizations involved in funding, planning, regulation, design, and construction. It takes leadership, vision, and perseverance.

"I've been involved in a lot of these projects," said Cathi Read, manager of the Small Communities Initiative for the Office of Community Development. "One thing I've learned is that there has to be a sparkplug—a person who gets things going. In this project, Leanna's the sparkplug."

Ione used to draw its drinking water from Cedar Creek, but that surface source was vulnerable to microbial contamination, and the quantity was not always dependable in late summer and early fall. The town switched to groundwater in the 1980s, trading those problems for some that can be seen, smelled, and tasted all the time. At their worst, these problems coalesce into something the locals call "gluck."

Water from Ione's current wells has high

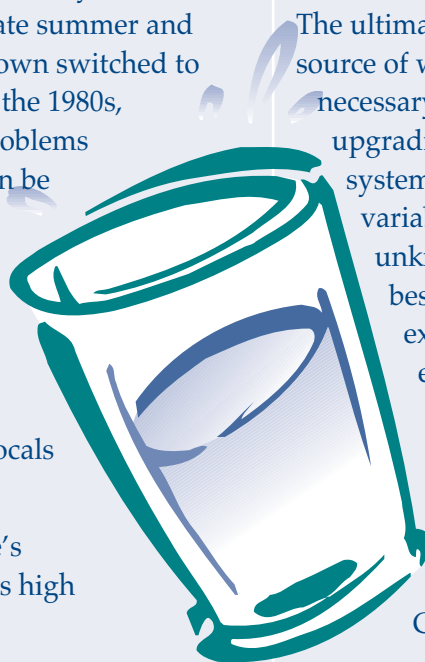
concentrations of iron and manganese. It clogs pipes, damages valves, and discolors laundry. The water is not an acute health and safety concern, according to the Department of Health, but it is bad enough that many people in the town buy bottled water for drinking and cooking.

Ione's water problems have probably impeded economic development in the area. In a business survey conducted for the North Pend Oreille County Community Action Plan, 13 of 19 responding businesses said poor water quality hurts their business. The water quality problem is apparently widely known and reportedly discourages people from starting businesses or buying homes.

On top of all this, the distribution system is over 50 years old and badly in need of an upgrade.

The ultimate cost of finding the best source of water, installing the necessary treatment, and upgrading the distribution system will depend on some variables that are still unknown, but the current best estimate is that it could exceed \$4 million—a major expense for a town with only about 500 people.

The town currently has a \$262,000 Community Development Block Grant for planning and



engineering design of the distribution system. Surveyors were on site in November to develop a map of the existing system and identify the location of potential improvements.

The three alternatives for improving the quality of the town's water, in order of preference, are:

- Drill new wells and treat the groundwater as necessary.
- Stay with the existing wells and treat the water differently.
- Return to Cedar Creek surface water and treat it.

A hydrogeologic investigation earlier this year identified potential sites for new wells, and funds have been made available for test drilling. When the results of the test drilling and water sampling are in, there will be a meeting of potential funding agencies to put together a plan for future action.

"We still have a long way to go," said Cathi Read "but we've made a lot of progress, and we seem to have the right things in place. I think the name of the game now is perseverance."

Leanna Powers, for her part, says she's committed to seeing the project through.

"Harley's going to make that run some day," she said, "and I'm going to cheer him on."

For more information, contact:

Cathi Read
Office of Community Development
360-725-3016
cathir@cted.wa.gov

Small Water System Requirements: Some Clarifications

Recently there have been many questions about certain state requirements for small water systems. The information below should help clarify the requirements in three important areas.

Small Water System Management Program

According to WAC 246-290-105, all Group A water systems that are not required to complete a water system plan (generally those with fewer than 1,000 service connections) must instead develop and implement a small water system management program (SWSMP).

The regulations simply require that the system prepare the SWSMP document and use it as a management tool. In most cases the system does not have to submit the document to the Department of Health (DOH) for review and approval.

The system must submit the SWSMP document for review and approval by DOH only in the following situations:

- When a new non-transient noncommunity (NTNC) water system is created.
- When an existing system has operational, technical, managerial, or financial problems as determined by DOH.
- When a system is going through the state revolving fund loan approval process.

The department's Small Water System Management Program Guide (Publication #331-134) can assist water systems in developing a SWSMP document. It is available on our web site or by calling the Training and Outreach Section at 360-236-3164.

Source Meters

Tracking water production with source meters is an important part of operating and managing a water system, and is widely accepted in the water industry as good operations practice. Source meters can provide valuable information about your system, help you manage your supply, and alert you to such problems as leaks, sudden increases in demand, and pump failures.

Operating without source meters and the valuable information they provide can be a significant detriment to system operation. As a result, and in accordance with WAC 246-290-415 (3) and (5), the Division of Drinking Water expects all Group A water systems to install meters on all their sources and routinely record water production.

If you do not currently have meters installed on your water sources, you should budget for them and install them as soon as it is feasible. Financial assistance may be available through the Department of Ecology.

For more information, visit: <http://www.ecy.wa.gov/programs/wr/measuring/measuringhome.html>.

Cross-Connection Control

According to WAC 246-290-490, all Group A water systems are required to develop and implement a cross connection control program. The regulations list the minimum elements of such a program.

The division is currently developing guidance for small water systems to assist in the development and implementation of cross-connection control programs. This guidance should be available in the first quarter 2003. Systems will be required to document their cross connection control program as part of their WSP or SWSMP.

Training for Certified Water Works Operators Needs to be Relevant

Certified water works operators are on the front line of protecting public health by assuring safe and reliable drinking water. It is very important that operators receive training that is relevant to protecting public health.

All certified water works operators must meet professional growth requirements to remain certified. Most do so by obtaining at least 3.0 relevant continuing education units (CEU) or college credits during each professional growth reporting period.

Before signing up for training to help meet their professional growth requirement, operators should always make sure that the training is relevant. Many courses offer CEU or college credit and may be relevant for other professions but not for water works certification purposes.

To apply toward the water works operator professional growth requirement in Washington State, training must be directly relevant to the operation, maintenance, or

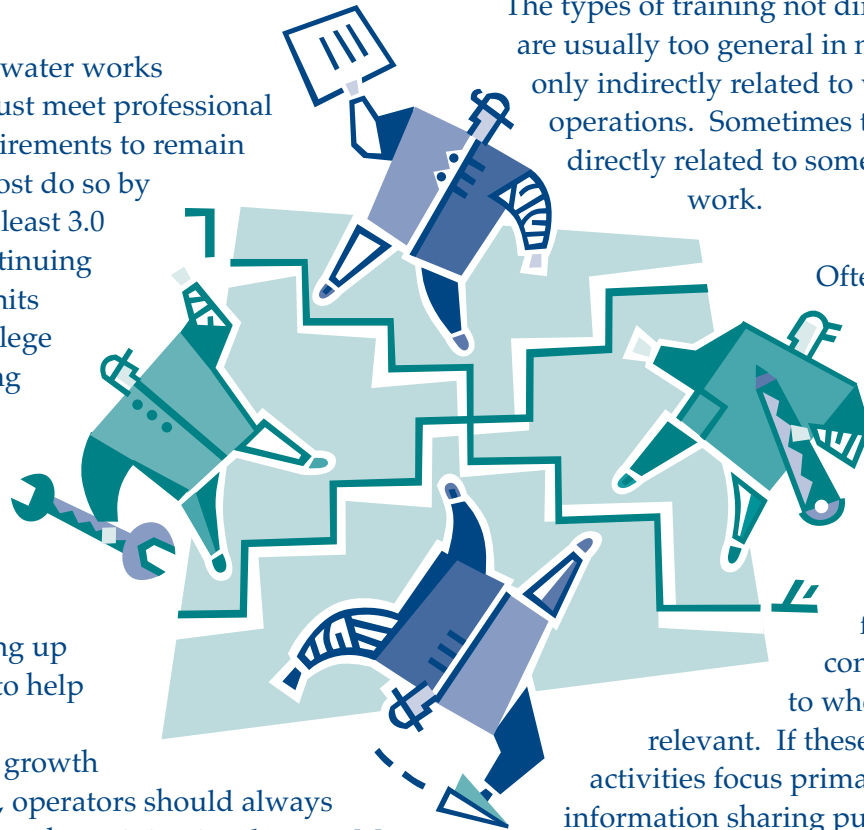
management of a water system and have an influence on water quality, water supply, or public health protection.

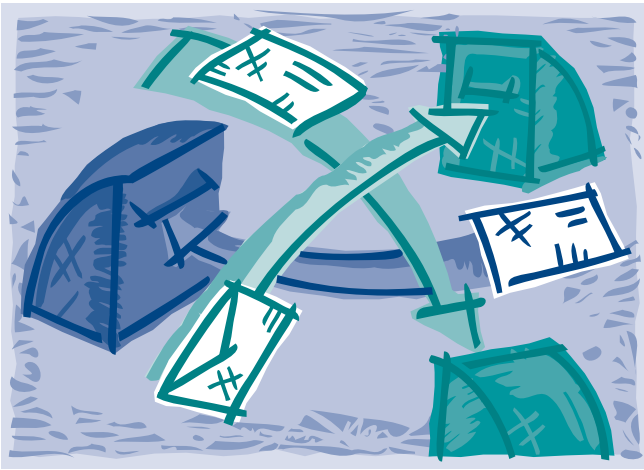
This includes training that expands an operator's expertise in the technical, managerial, or financial operations of a water system. It also includes training related to involving or informing customers about regulatory requirements and the compliance status of the water system.

The types of training not directly relevant are usually too general in nature or are only indirectly related to water system operations. Sometimes they are more directly related to some other field of work.

Often there are questions around opportunities such as committee meeting attendance, association functions, conventions, etc. as to whether they are relevant. If these types of activities focus primarily on information sharing purposes, rather than true training for certified water works operators, they would not be seen as relevant training.

The Division of Drinking Water has a fact sheet with more detail and specific examples of types of training that are and are not relevant. This fact sheet is on the web at: www.doh.wa.gov/ehp/dw/fact_sheets/Relevancy_of_Training.htm





2003 WQMRs Should Be In The Mail Soon

The Division of Drinking Water is now preparing the 2003 Water Quality Monitoring Report (WQMR). We expect to mail them in January.

The annual WQMR is part of our increased effort to let water systems know their sampling requirements. We send one at the beginning of each calendar year to all Community and Non-transient Non-community water systems.

The WQMR provides a list of specific source monitoring requirements tailored to each system, based on sampling history, compliance status, and waiver status.

The Environmental Protection Agency established three-year periods during which systems conduct source-specific sampling. 2003 is the second year of the 2002-2004 compliance period of monitoring for inorganic chemicals (IOCs), volatile organic chemicals (VOCs), and synthetic organic chemicals (SOCs).

A number of water systems applied for and were granted monitoring waivers this year for the 2002-2004 compliance period. The 2003 WQMR will reflect those waivers. Systems were not scheduled for IOCs, VOCs, and SOCs during 2002 unless the sources were out of compliance, or had quarterly, annual, or other monitoring requirements for those tests.

For more information, contact the Regional Water Quality Specialist listed on the back of your 2002 WQMR.

2002 nitrate samples must be collected by December 31st

All group A Community and Non-community water systems must sample for nitrate at least once a year. Group B systems must do so once every three years. In addition, some sources may have to be sampled once per quarter due to levels of nitrate reported greater than the trigger level of 5.0 mg/L. An IOC sample will satisfy the requirement if it includes nitrate.

Monitoring compliance for 2002 will be assessed early next year. Samples must be collected by December 31, 2002 to count.

Make Sure Lead/Copper Results Get to DOH

Water utilities that must test their distribution system for lead and copper are required to get the laboratory results to the Department of Health (DOH). Many labs will send the results to the department as a courtesy to their customers, even though they are not required to.

We recommend you ask your lab if this is a service they provide. If they don't, you must get the results from the lab and send them to:

Data Entry
DOH Division of Drinking Water
P.O. Box 47849
Olympia, WA 98504-7849.

Do not send these results to your Regional Office.



New Backflow Exams Coming in 2003

In January 2003, Washington State will begin using the national standardized Backflow Prevention Assembly Tester examination from the Association of Boards of Certification.



The 100 question examination proctored by Washington Environmental Training Center covers basic concepts, public health principles,

operating characteristics of backflow prevention assemblies and devices, field test equipment, and field test procedures.

Steps taken in the establishment of this exam included developing the “need-to-know” criteria for both the written and performance exams, defining the qualifications for certification, and developing and validating examination questions.

Also available in January 2003 will be a new Cross Connection Control Specialist examination. The 100 question examination proctored by Department of Health covers causes of backflow, health aspects, application and types of backflow preventers, installation requirements and regulations. This examination is no longer in four separate modules.

Public Hearing on Chapter 246-290 WAC Tentatively Set for February 2003

The public hearing scheduled for fall 2002 on important revisions and additions to state drinking water regulations has been delayed and tentatively rescheduled for February 25, 2003.

Information about the draft rules is available on the Division of Drinking Water’s web site: http://www.doh.wa.gov/ehp/dw/Our_Main_Pages/regula8.htm

We will be mailing the hearing notice and draft regulations to all Group A public water systems in late January 2003. More information about the hearing and the final draft rule will also be available on-line at that time.

Following the public hearing, final rule adoption is anticipated for April 2003.

The major subjects are:

- Surface Water Treatment
- Disinfection/Disinfectant By-products
- Public Notification
- Lead and Copper Minor Revisions
- Radionuclides
- Filter Backwash Recycling
- Variance and Exemption

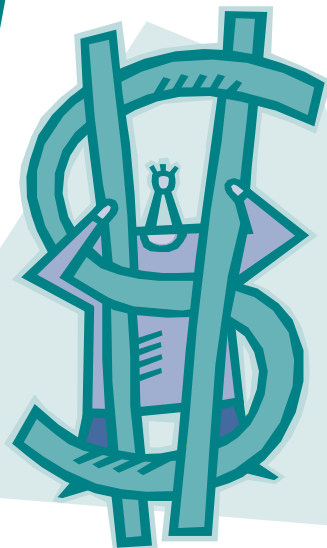
If you have questions or would like a printed copy of current and proposed rules and rule revisions, contact: Theresa Phillips, 360-236-3147 or theresa.phillips@doh.wa.gov

2003 DWSRF Application Cycle Nearing

Have you heard of our low interest loans available through the Drinking Water State Revolving Fund Loan Program? This opportunity is available for most systems. Now is a good time to plan ahead for the next loan application deadline coming up next May.

Look for information on the 2003 DWSRF application cycle in the next issue of the Water Tap, due out in January. This special DWSRF issue will include information on loan terms, application workshop registration, and the application deadline. Please contact Chris Gagnon at 360-236-3095 or chris.gagnon@doh.wa.gov for more information.

Also look to the Infrastructure Assistance Coordinating Council (IACC) for on-line information on infrastructure funding and technical assistance options. Their web site is at <http://www.infracfunding.wa.gov>



Tap Tips

Always disinfect after pump maintenance or installation

When investigating the cause of an unsatisfactory bacteriological sample, we often learn that the purveyor recently had the well pump replaced or had other work done to the well. The purveyor frequently does not know if the well was disinfected after the work was done.

The Department of Ecology's well construction regulations (WAC 173-160-331 and 351) require pump equipment and water wells to be free of contaminants before they are put to use or re-use. Well contractors and pump installers are aware of these requirements and generally include the cost of this activity in their bid.

It is the purveyor's responsibility to ensure that the contract or agreement with the pump installer is fully carried out and the well is properly disinfected. Otherwise, the purveyor is stuck with the costs for disinfecting the well and the additional coliform sampling.

If chlorine is used to disinfect the well, sufficient chlorine must be added to the standing water to give a residual of 50 parts per million (ppm) free chlorine. Re-circulation of the well water back into the well casing may be necessary to get adequate coverage of the well interior.

The chlorine must remain in the well for at least 24 hours. After 24 hours, a minimum of one ppm chlorine residual must remain in the water before the well is flushed free of chlorine and a coliform bacteria sample taken.

Many unsatisfactory bacteriological samples can be avoided through proper disinfection before a well is put back into service.

Training and Education Calendar Dec. 2002 - March 2003

<u>Date</u>	<u>Topics</u>	<u>Location</u>	<u>Contact</u>	<u>Phone #</u>	<u>Cost/CEU</u>
Dec 3	Water System Vulnerability Assessment for Small Systems*	Bellingham	ERWOW	800-272-5981	Free/Call*
Dec 3-4	Cross Connection Control Basic Course	Richland	WETRC	800-562-0858	\$195/1.4
Dec 3-4	Basic Water Works	Tacoma	WETRC	800-562-0858	\$275/2.1
Dec 3-5	Basic Electrical	Everett	WETRC	800-562-0858	\$275/2.1
Dec 3-5	Water Works Basics	Tacoma	WETRC	800-562-0858	\$275/2.1
Dec 4	Water System Vulnerability Assessment for Small Systems*	Mt Vernon	ERWOW	800-272-5981	Free/Call*
Dec 5	Water System Vulnerability Assessment for Small Systems*	Yelm	ERWOW	800-272-5981	Free/Call*
Dec 6	How to Develop a Small Water System Mgmt Program*	Vancouver	WETRC	800-562-0858	Free/Call*
Dec 6	Cross Connection Control Program Review	Vancouver	ERWOW	800-272-5981	\$60/0.5
Dec 7	How to Develop a Small Water System Mgmt Program*	Centralia	WETRC	800-562-0858	Free/Call*
Dec 9-13	BAT Certification Course and Exam	Auburn	WETRC	800-562-0858	\$695/3.0
Dec 10	Water System Vulnerability Assessment for Small Systems*	Goldendale	ERWOW	800-272-5981	Free/Call*
Dec 10	Automatic Control Valve Workshop	Bellevue	KCAWWA	425-868-1144	\$45/0.6
Dec 10-11	Cross Connection Control Basic Course	Tacoma	WETRC	800-562-0858	\$195/1.4
Dec 11	Pump Operation and Maintenance	Spokane	Sharron Kimball	509-924-3655	Free/0.6
Dec 11	Water System Vulnerability Assessment for Small Systems*	Camas	ERWOW	800-272-5981	Free/Call*
Dec 14	BAT Exam Only	Auburn	WETRC	800-562-0858	\$180/NA
Dec 16-17	BAT Refresher Course	Auburn	WETRC	800-562-0858	\$205/1.5
Dec 17-19	Water Distribution Certification Exam Review	Tacoma	WETRC	800-562-0858	\$265/2.1
Dec 18	BAT Pro-gro Exam	Auburn	WETRC	800-562-0858	\$105/NA
2003					
Jan 6-8	Water Distribution Certification Exam Review	Auburn	WETRC	800-562-0858	\$265/2.1
Jan 7	Water System Vulnerability Assessment for Small Systems*	Forks	ERWOW	800-272-5981	Free/Call*
Jan 7	Cross Connection Control and Backflow Basics*	Omak	ERWOW	800-272-5981	Free/0.7*
Jan 8	Water System Vulnerability Assessment for Small Systems*	Port Angeles	ERWOW	800-272-5981	Free/Call*
Jan 8	Cross Connection Control and Backflow Basics*	Wenatchee	ERWOW	800-272-5981	Free/0.7*
Jan 9	Asbestos Cement Pipe Work Practice Procedures	Auburn	WETRC	800-562-0858	\$145/0.7
Jan 9	Water System Vulnerability Assessment for Small Systems*	Shelton	ERWOW	800-272-5981	Free/Call*
Jan 10	Cross Connection Control Cert Exam Review	Auburn	WETRC	800-562-0858	\$135/0.7
Jan 10	Water System Vulnerability Assessment for Small Systems*	Aberdeen	ERWOW	800-272-5981	Free/Call*
Jan 13-14	BAT Refresher Course	Auburn	WETRC	800-562-0858	\$205/1.5
Jan 14	Water Treatment Plant Operator Exam Review*	Olympia	ERWOW	800-272-5981	Free/Call*
Jan 15	Water Treatment Plant Operator Exam Review*	Olympia	ERWOW	800-272-5981	Free/Call*
Jan 15	BAT Pro-gro Exam	Auburn	WETRC	800-562-0858	\$105/NA
Jan 16	Water Treatment Plant Operator Exam Review*	Olympia	ERWOW	800-272-5981	Free/Call*
Jan 21	WDM Exam Review*	Richland	ERWOW	800-272-5981	Free/Call*
Jan 21	Cross Connection Control Specialist Exam Review*	Olympia	ERWOW	800-272-5981	Free/Call*

Training and Education Calendar Dec. 2002 - March 2003

<u>Date</u>	<u>Topics</u>	<u>Location</u>	<u>Contact</u>	<u>Phone #</u>	<u>Cost/CEU</u>
Jan 22	WDM Exam Review*	Richland	ERWOW	800-272-5981	Free/Call*
Jan 22	Cross Connection Control Specialist Exam Review*	Olympia	ERWOW	800-272-5981	Free/Call*
Jan 23	WDM Exam Review*	Richland	ERWOW	800-272-5981	Free/Call*
Jan 23	Cross Connection Control Specialist Exam Review*	Olympia	ERWOW	800-272-5981	Free/Call*
Jan 24	Cross Connection Control Cert Exam Review	Richland	WETRC	800-562-0858	\$135/0.7
Jan 27-31	BAT Certification Course and Exam	Auburn	WETRC	800-562-0858	\$695/3.0
Jan 28	WDM Exam Review*	Olympia	ERWOW	800-272-5981	Free/Call*
Jan 28	Cross Connection Control Specialist Exam Review*	Moses Lake	ERWOW	800-272-5981	Free/Call*
Jan 29	WDM Exam Review*	Olympia	ERWOW	800-272-5981	Free/Call*
Jan 29	Cross Connection Control Specialist Exam Review*	Moses Lake	ERWOW	800-272-5981	Free/Call*
Jan 30	WDM Exam Review*	Olympia	ERWOW	800-272-5981	Free/Call*
Jan 30	Cross Connection Control Specialist Exam Review*	Moses Lake	ERWOW	800-272-5981	Free/Call*
Jan 29-30	WTO & BTO Certification Exam Review	Yakima	WETRC	800-562-0858	\$180/1.4
Feb 4	Cross Connection Control and Backflow Basics*	Aberdeen	ERWOW	800-272-5981	Free/0.7*
Feb 4	Cross Connection Control Specialist Exam Review*	Cheney	ERWOW	800-272-5981	Free/Call*
Feb 5	Cross Connection Control and Backflow Basics*	Shelton	ERWOW	800-272-5981	Free/0.7*
Feb 6	Cross Connection Control and Backflow Basics*	Chehalis	ERWOW	800-272-5981	Free/0.7*
Feb 6	Budgeting and Rate Setting for Small Water Systems*	Omak	RCAC	360-493-2260	Free/Call*
Feb 7	Cross Connection Control and Backflow Basics*	Moses Lake	ERWOW	800-272-5981	Free/Call*
Feb 7	Budgeting and Rate Setting for Small Water Systems*	Wenatchee	RCAC	360-493-2260	Free/Call*
Feb 8	Budgeting and Rate Setting for Small Water Systems*	Walla Walla	RCAC	360-493-2260	Free/Call*
Feb 10	Corrosion Control & Cathodic Protection for Water Systems*	Yakima	ERWOW	800-272-5981	Free/Call*
Feb 10-11	BAT Refresher Course	Auburn	WETRC	800-562-0858	\$205/1.5
Feb 11-12	Competent Person and Cave-In Protection	Snohomish	WETRC	800-562-0858	\$210/1.4
Feb 11-13	ERWOW Annual Conference	Yakima	ERWOW	800-272-5981	Call/Call
Feb 12	BAT Pro-gro Exam	Auburn	WETRC	800-562-0858	\$105/NA
Feb 13	BAT Exam Only	Auburn	WETRC	800-562-0858	\$180/NA
Feb 14	Cross Connection Control Specialist Exam Review*	Yakima	ERWOW	800-272-5981	Free/Call*
Feb 18	Water System Vulnerability Assessment for Small Systems*	Oak Harbor	ERWOW	800-272-5981	Free/Call*
Feb 19	Water System Vulnerability Assessment for Small Systems*	Bremerton	ERWOW	800-272-5981	Free/Call*
Feb 19	Budgeting and Rate Setting for Small Water Systems*	Bellingham	RCAC	360-493-2260	Free/Call*
Feb 19-20	Process Control and Instrumentation	Everett	WETRC	800-562-0858	\$225/1.4
Feb 20	Water System Vulnerability Assessment for Small Systems*	Puyallup	ERWOW	800-272-5981	Free/Call*
Feb 20	Budgeting and Rate Setting for Small Water Systems*	Mt Vernon	RCAC	360-493-2260	Free/Call*
Feb 20	Asbestos Cement Pipe Work Practice Procedures	Auburn	WETRC	800-562-0858	\$145/0.7
Feb 21	Water System Vulnerability Assessment for Small Systems*	Kelso	ERWOW	800-272-5981	Free/Call*
Feb 24-28	BAT Certification Course and Exam	Auburn	WETRC	800-562-0858	\$695/3.0

Training and Education Calendar Dec. 2002 - March 2003

<u>Date</u>	<u>Topics</u>	<u>Location</u>	<u>Contact</u>	<u>Phone #</u>	<u>Cost/CEU</u>
Feb 25	Budgeting and Rate Setting for Small Water Systems*	Yelm	RCAC	360-493-2260	Free/Call*
Feb 25-27	Pump Operation and Maintenance	Everett	WETRC	800-562-0858	\$275/2.1
Feb 26	Budgeting and Rate Setting for Small Water Systems*	Chehalis	RCAC	360-493-2260	Free/Call*
Mar 3-4	BAT Refresher Course	Auburn	WETRC	800-562-0858	\$205/1.5
Mar 3-5	RAM-W Vulnerability Assessment Training	Tacoma	Jeff Slotnick	253-538-9848	Call/Call
Mar 5	BAT Pro-gro Exam	Auburn	WETRC	800-562-0858	\$105/NA
Mar 6	Budgeting and Rate Setting for Small Water Systems*	Moses Lake	RCAC	360-493-2260	Free/Call*
Mar 7	Budgeting and Rate Setting for Small Water Systems*	Yakima	RCAC	360-493-2260	Free/Call*
Mar 8	Budgeting and Rate Setting for Small Water Systems*	Richland	RCAC	360-493-2260	Free/Call*
Mar 10-13	25th Annual WOW Conference	Spokane	WETRC	800-562-0858	Call/Call
Mar 11	Cross Connection Control Specialist Exam Review*	Olympia	ERWOW	800-272-5981	Free/Call*
Mar 12	Cross Connection Control Specialist Exam Review*	Chehalis	ERWOW	800-272-5981	Free/Call*
Mar 12	Budgeting and Rate Setting for Small Water Systems*	Auburn	RCAC	360-493-2260	Free/Call*
Mar 13	Cross Connection Control Specialist Exam Review*	Camas	ERWOW	800-272-5981	Free/Call*
Mar 13	Cross Connection Control & Backflow Basics*	Forks	ERWOW	800-272-5981	Free/0.7*
Mar 13	Budgeting and Rate Setting for Small Water Systems*	Lakewood	RCAC	360-493-2260	Free/Call*
Mar 14	Cross Connection Control and Backflow Basics*	Port Angeles	ERWOW	800-272-5981	Free/0.7*
Mar 17-21	BAT Certification Course and Exam	Auburn	WETRC	800-562-0858	\$695/3.0
Mar 18	Water System Vulnerability Assessment for Small Systems*	Colville	ERWOW	800-272-5981	Free/Call*
Mar 19	Water System Vulnerability Assessment for Small Systems*	Airway Hts	ERWOW	800-272-5981	Free/Call*
Mar 20	Basic Water Works Overview*	Forks	ERWOW	800-272-5981	Free/Call*
Mar 21	Basic Water Works Overview*	Aberdeen	ERWOW	800-272-5981	Free/Call*
Mar 24-25	BAT Refresher Course	Auburn	WETRC	800-562-0858	\$205/1.5
Mar 25	Basic Water Works Overview*	Wilbur	ERWOW	800-272-5981	Free/Call*
Mar 25-26	BAT Refresher Course	Richland	WETRC	800-562-0858	\$205/1.5
Mar 26	Basic Water Works Overview*	Ellensburg	ERWOW	800-272-5981	Free/Call*
Mar 26	Budgeting and Rate Setting for Small Water Systems*	Cheney	RCAC	360-493-2260	Free/Call*
Mar 26	BAT Pro-gro Exam	Auburn	WETRC	800-562-0858	\$105/NA
Mar 27	Basic Water Works Overview*	Kennewick	ERWOW	800-272-5981	Free/Call*
Mar 27	Budgeting and Rate Setting for Small Water Systems*	Pullman	RCAC	360-493-2260	Free/Call*
Mar 27	BAT Pro-gro Exam	Richland	WETRC	800-562-0858	\$105/NA

*These courses are designed for small water systems serving 3,300 people or less.

Additional Training Links:

AWWA King County Subsection Web Site – www.kcawwa.org
 ERWOW Web Site - www.ERWOW.org
 WETRC Web Site - www.ivygreen.ctc.edu/wetrc
 AWWA Pacific Northwest Section - www.pnws-awwa.org/

**For the complete Training Calendar
 visit the Drinking Water Homepage
 and click on Training -
www.doh.wa.gov/ehp/dw**

Lead and Copper Sampling

Regional lead and copper contacts are there to help you

Lead and copper sampling is sometimes confusing, given the complexities of action levels, percentiles, site selection, sampling techniques, and timing of samples.

Because of this complexity, there are specialists in the Division of Drinking Water who can help you. Here are some of the more common problems they deal with:

Action levels and percentile calculation

The action levels are 0.015 mg/l for lead and 1.3 mg/l for copper. Compliance is measured at the 90th percentile. This means that if more than 10% of the samples collected during a monitoring period exceed the lead or copper action levels, then the utility must identify a strategy to reduce the corrosivity of the water supplied to customers. This is the first step in corrosion control treatment—a process that takes time and can be costly to a utility.

Labs usually do not calculate the 90th percentile of the sample results, so how do you know the 90th percentile numbers? If any of your results exceed the action level, call your regional office contact with all of the results, and they can do the calculation for you.

Site selection and sampling techniques

Improper site selection or sampling technique can result in unrepresentative sampling results. DOH can work with you to obtain more representative samples and avoid the corrosion control process.

Number of samples

A sample set consisting of five lead and copper samples means that only one sample significantly above the action level may produce results that exceed the water quality standard and trigger the requirement for corrosion control.

In such cases, it may make sense to collect an additional five samples from different sites to determine whether a corrosion problem really exists.

Timing of samples

If you collect your samples late in the compliance period, you may not have enough time to re-sample or collect additional samples in the same period.

The key to avoiding unnecessary problems is sampling early in the compliance period and calling DOH right away if the results come back high.

Your lead and copper contacts are:

Northwest Regional office

Karen Heneghan, 253-395-6766
Steve Hulsman, 253-395-6777

Southwest Regional Office

Belle Fuchs & Donna Freier,
360-586-5179

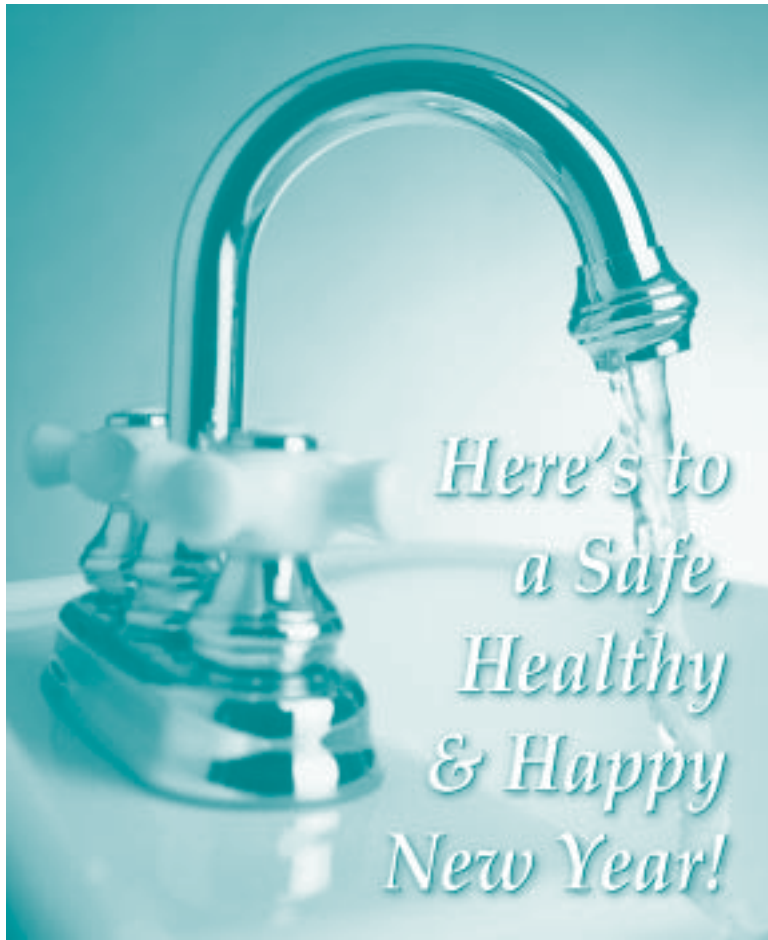
Eastern Regional Office

Ginny Darrell, 509-456-2714

Headquarters

Derrick Dennis, 360-236-3122





In This Issue

The following people contributed to the production of this issue of the Water Tap: Cheryl Bergener, Marsha Carlton, Denise Clifford, Virginia Darrel, Scott Decker, Derrick Dennis, Chris Gagnon, Gregg Grunenfelder, Rich Hoey, Jim Hudson, Abigail Hughes, Judy Jones, Tom Justus, Steve Kelso (Editor), Bill Liechty, Donna Lynch, Meliss Maxfield, Theresa Phillips, Cathi Read (Office of Community Development), Dan Sander, Rich Sarver, Rich Siffert, Paula Smith, Michele Vazquez, Trace Warner, and Mike Wilson.

The Department of Health, Division of Drinking Water, publishes the Water Tap to provide information to water system owners, water works operators, and others interested in drinking water. Comments and questions are welcome.

Past issues are available by writing to the editor, the Water Tap, Division of Drinking Water, PO Box 47828, Olympia, WA 98504-7828, or email your request to steve.kelso@doh.wa.gov. Past issues are also available on the web at <http://www.doh.wa.gov/ehp/dw>

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Division of Drinking Water
PO Box 47822
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1-800-521-0323